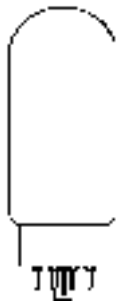


5AR4
Full Wave Rectifier

The 5AR4 is a heater-cathode twin diode designed for full-wave rectifier opertion. High output current and small size make this tube especially suitable for compact amplifier designs.

ELECTRICAL

Cathode	coated unipotential	
Heater Voltage AC or DC	5.0 ! 10%	Volts
Heater Current	1.9	Amps

MECHANICAL

Base	Intermediate-Shell Octal 5 pin	
Bulb	T-9, 1 3/16" max. dia.	
Max. overall length	3 7/16	inch
Max. seated height	2 7/8	inch
Max. diameter	1 9/32	inch
Mounting Position	any	

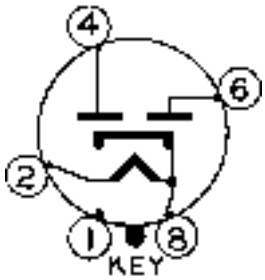
RECTIFIER SERVICE - MAXIMUM RATINGS - Design Center Values

Peak Inverse Plate Voltage	1700	Volts
AC Plate-Suppl Voltage per Plate	See Rating Chart 1	
Steady-State Peak Plate Current per Plate	825	mA
Transient Peak Plate Current per Plate, Max.Duration 2 Seconds	3.7	Amps
DC Output Current	See Rating Chart 1	

TERMINAL CONNECTIONS

Pin 1 Internal Connection
Pin 2 Heater
Pin 4 Plate Number 2
Pin 6 Plate Number 1
Pin 8 Heater and Cathode

BASING DIAGRAM



EIA 5DA

(Revised 6/3/99)

P E N T A L A B O R A T O R I E S
9740 COZYCROFT AVENUE * CHATSWORTH * CALIFORNIA 91311
(800) 421-4219 * (818) 882-3872 * FAX: (818) 882-3968

ELECTRON TUBES FOR INDUSTRY

Design-Maximum values are limiting values of operating and environmental conditions applicable to a bogey tube of a specified type as defined by its published data, and should not be exceeded under the worst possible conditons.

The tube manufacturer chooses these values to provide acceptible servicability of the tube, taking responsibility for the effects of changes on operationg conditions due to variations in tube characteristics.

The equipment manufacturer should design so that initially and throughout life no design-maximum value for the intended service is expected with a bogey tube under the worst possible conditions with respect to supply-voltage variation, equipment component variation, equipment control adjustment, load variation, signal variation, and environmental conditions.

FULL-WAVE RECTIFIER WITH CAPACITOR-INPUT FILTER

AC Plate-Supply Voltage per Plate, RMS	450	550	Volts
Total Plate-Supply Resistance per Plate	160	200	Ohms
DC Output Current	225	160	mA
DC Output Votlage at Filter Input	475	620	Volts

FULL-WAVE RECTIFIER WITH CHOKE-INPUT FILTER

AC Plate-Supply Voltage per Plate, RMS	450	550	Volts
Filter Input Choke	10	10	Henrys
DC Output Current	250	225	mA
DC Output Votlage at Filter Input	375	465	Volts
Tube Voltage Drop			
Ib=225 mADC per Plate	17		Volts

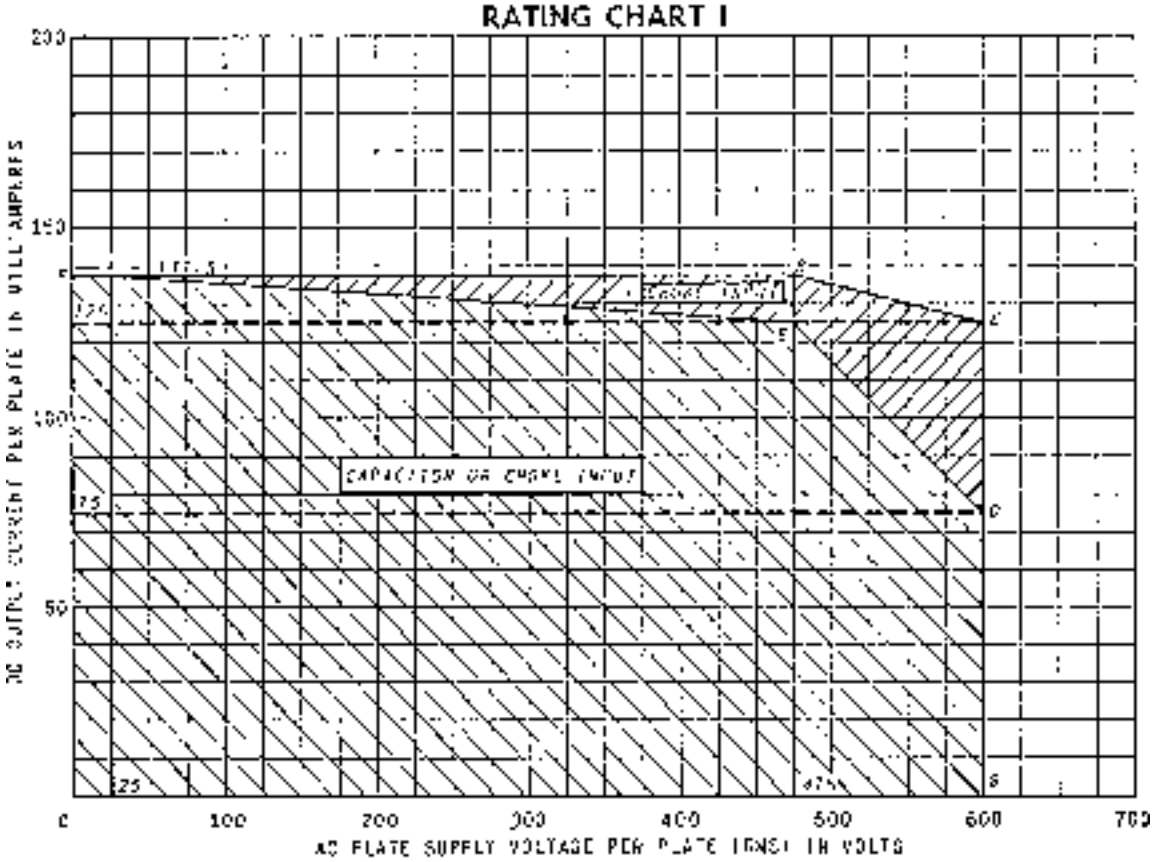
To simplify the application of the maximum ratings to circuit design, the Design-Maximum ratings are presented in a chart form as Ratings Charts 1, 2, and 3. Rating Chart 1 presents the maximum ratings for a-c plate supply voltage and d-c output current. Rating Chart 2 provides a convenient method for checking confornance with the steady-state peak-plate current rating. Rating Chart 3 offers a convenient method for checking conformance with the maximum transient peak-plate-current rating. Rating Chart 1 applies to both capacitor-input and choke-input filters, while rating Charts 2 and 3 apply to capacitor-input filters only.

Operating points should be so selected that the boundry limits of a-c plate voltage and s-c output current an Rating Chart 1 and maximim d-c output cutrrent per plate and rectification efficientcy on Rting Chart 2, are not exceeded eith a bogey tube under the worst probable conditionswith respect to supply-voltage variatons, equipment components variation, equipment control adjustment, and environmental conditions. On Rating Chart 1 the boundry FAEDG defines the limit for capacitor-input filter operation, and the boundry FABCDG defines the limit for choke-input filteroperation.

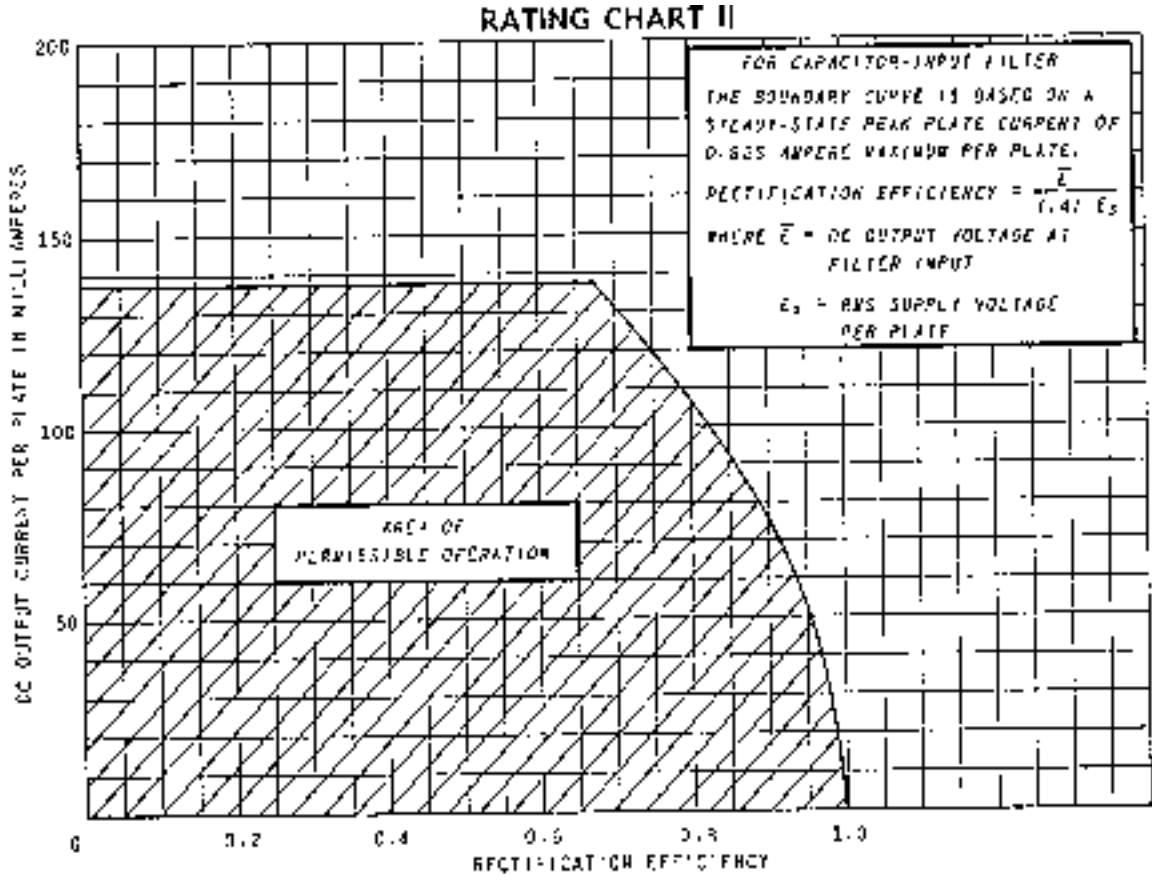
Rating Chart 3 shows the minimum value of plate supply resistance (R_s) required to remain within the transient peak-plate-current rating. The value of R_s should be such that it lies to the left of the line on Rating Chart 3 at the highest probable value of line voltage.

5AR4 Full-Wave Rectifier

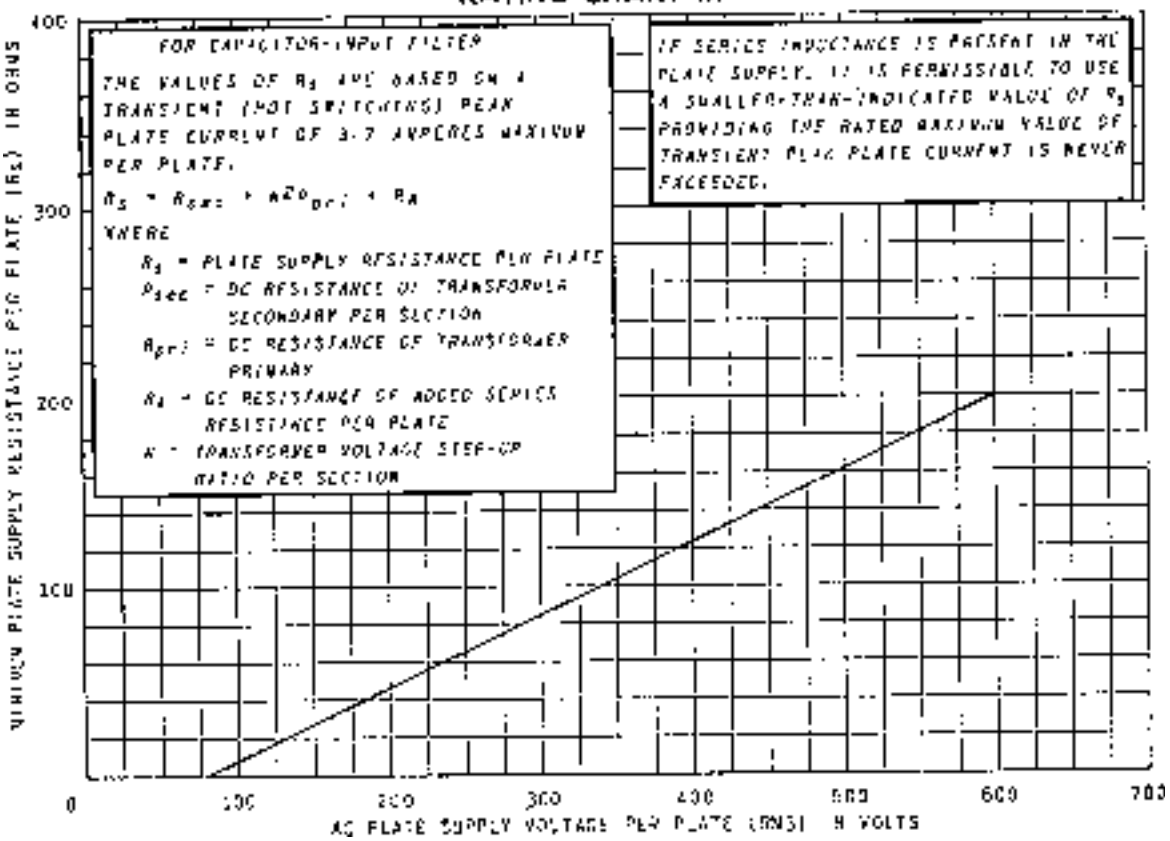
RATING CHART I



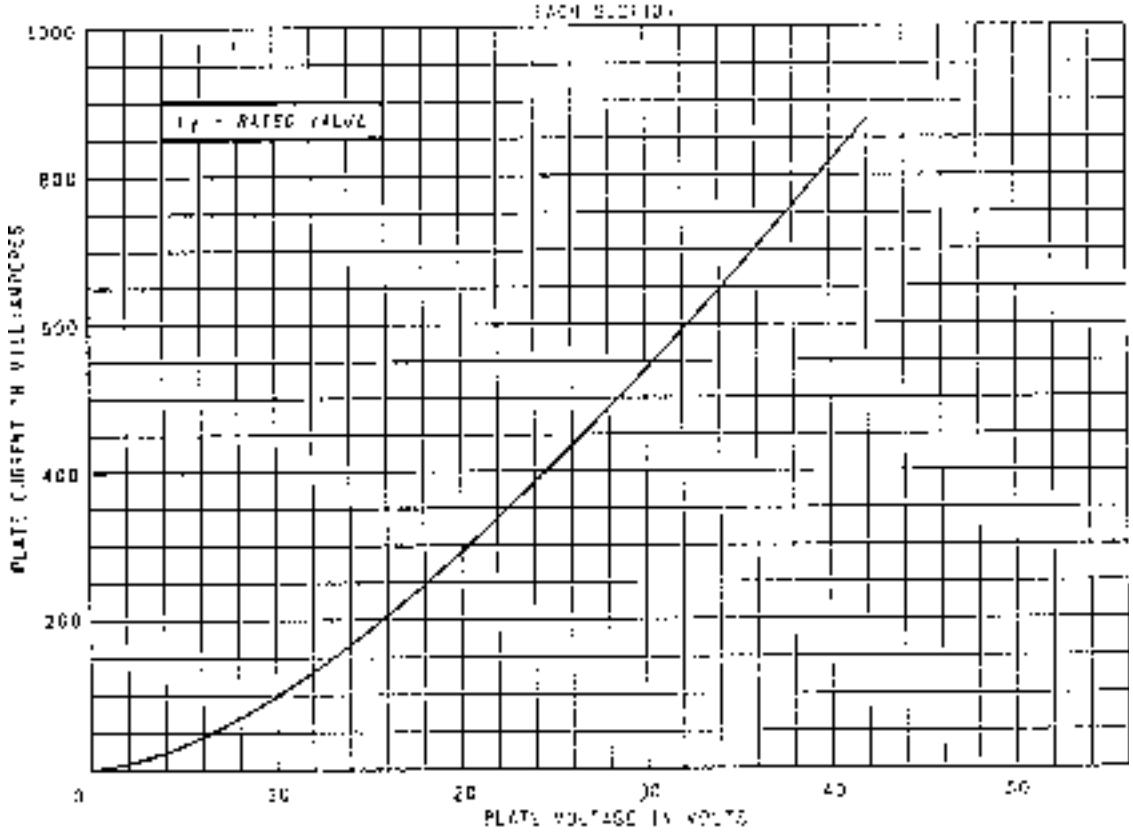
RATING CHART II



RATING CHART III



AVERAGE PLATE CHARACTERISTICS



5AR4 Full-Wave Rectifier